



Serial No. 09/648,525

PATENT  
WFVA/CIDRA File Nos.: 712-002.165/CC-0273

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Michael A. Davis et al. : Confirmation No. 6438

Serial No.: 09/648,525 : Examiner: A. V. Amari

Filed: August 26, 2000 : Group Art Unit: 2872

Title: OPTICAL FILTER HAVING A SHAPED FILTER FUNCTION

**MAIL STOP AF**

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

DECLARATION BY MICHAEL A. DAVIS

Dear Sir:

I, Michael A. Davis, do hereby declare:

1. I am one of the named inventors for the aforementioned applications.
2. I have a PH.D. in Physics (specializing in Optics) from the University of Virginia - (1995), with about 10 years of experience in optical components and optical system design while working at the Naval Research Laboratory, where my work focused mainly on optical fiber sensing systems utilizing Interferometric topologies as well as Bragg grating based designs, and with about 10 years of experience at Cidra Corporation, the assignee of the instant patent application, initially working on Oil & Gas downhole optical Bragg grating based sensing

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systems, as well as working on optical component teams to design Bragg grating and alternate interferometric filter based telecomm products.

3. I have reviewed the reasoning in the Examiner's Answer mailed 18, 2006, including the remarks on page 16, lines 15-20, stating that 'a close examination of Figure 2a shows that the left and right sides of the filter response are not "flat" but are in fact "ramped" ... '

4. I have also reviewed the wavelength and bandwidth tunable optical system of Li (United States Patent No. 5,841,918) as a whole, including Figure 2a and the description thereof.

5. I respectfully submit that a person skilled in the art would appreciate that a filter response for functions and objects of the invention described in Li would be rectangular in shape having a substantially flat response, and that while a typical rectangular filter response has sloped sides as shown in Figure 2a of Li, one skilled in the art will recognize that the slope of the sides of the filter response would be steep, and therefore, Li's simplified filter response shown in Figure 2a is not in fact "ramped" or "gaussian" in contrast to that stated in the remarks on page 16, lines 15-20, for the following reasons:

i) A person skilled in the art would appreciate that the filter response shown in Figure 2a is "a simple graph" as stated in Li, column 3, line 46, that the filter response shown in Figure 2a is not drawn to scale, and that Li does not state that the filter response shown in Figure 2a is drawn to scale.

ii) A person skilled in the art would also appreciate that the filter 14 in Figure 1 of Li has the filter response shown in Figure 2a which is a substantially rectangular waveform, and which results in a band-pass filter that passes a certain range of

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frequencies and rejects (attenuates) unwanted frequencies outside that certain range.

iii) A person skilled in the art would also appreciate that, in operation, the substantially rectangular waveform of the filter response shown in Figure 2a reflects the certain range of frequencies of a wavelength division multiplexed signal (WDM) and does not reflect the unwanted frequencies outside that range of the WDM signal.

iv) A person skilled in the art would also appreciate that any ramped waveform component (i.e. not substantially rectangular) of the filter response shown in Figure 2a would undesirably reflect unwanted frequencies other than the certain range of frequency in the WDM signal, e.g. undesirably reflecting some or all of an adjacent unwanted wavelength in the WDM signal, which would adversely affect to the overall operability and performance of the wavelength and bandwidth tunable optical system of Li.

v) Because of this, a person skilled in the art would also appreciate that the substantially rectangular waveform of the filter response shown in Figure 2a would need to be as substantially rectangular as possible so as to only reflect the certain range of frequencies of the signals of interest, and would clearly not have any such substantially ramped waveform component like that shown in Figure 2a of Li.

6. For all these reasons, I believe that a typical filter response, as described in Li, does not tend to have a "ramped" or "Gaussian" shape, and that a close examination of Figure 2a shows that the filter response is rectangular in shape having a substantially 'flat' response, in contrast to that stated in the Examiner's Answer, on page 16, lines 15-20.

7. I hereby declare that all statements made herein of my own knowledge are true and

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that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,



Michael A. Davis  
18 October 2006